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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/657,079

09/09/2003

David Alexander

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04/30/2008

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EXAMINER

MUSSELMAN, TIMOTHY A

ART UNIT

PAPER NUMBER

3714

MAIL DATE

DELIVERY MODE

04/30/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/657,079	Applicant(s) ALEXANDER ET AL.	
	Examiner TIMOTHY MUSSELMAN	Art Unit 3714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 January 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-24, 26-28, 30, 31 and 33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 19-24, 26-28, 30, 31 and 33 is/are allowed.
- 6) ☒ Claim(s) 12-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
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| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of Claims

In response to the communication filed 1/14/2008, claims 12-24, 26-28, 30-31, and 33 are pending in this application. Claims 1-11, 25, 29, and 32 have been cancelled previously.

Claim Rejections - 35 USC § 103

The following is a quotation of the relevant portion of 35 U.S.C. 103 that forms the basis for the rejections made in this section of the office action;

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

Claims 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rosenberg et al. (US 5,805,140) in view of Tsuchihashi et al (US 4,955,654).

Regarding claim 12, Rosenberg discloses a device comprising a coupling mechanism configured to engage a user manipulated peripheral device. See col. 10: 22-27. Rosenberg further discloses a sensing assembly configured to detect movement of the peripheral device. See col. 13: 20-40. Rosenberg further discloses an actuator configured to apply a force that the user can feel to the peripheral device when it is engaged by the capture mechanism, the force based on control signals associated with the detected movement of the peripheral device. Col.13: 57-67. Rosenberg does not teach of a dimension adjusting mechanism which adjusts the dimension of the capture mechanism in a direction transverse to the movement of the peripheral device (i.e. the capture mechanism closes around the peripheral device). However, this type of grasping apparatus is known in the art of devices that grip peripheral objects.

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Consider for example the grasping apparatus of Tsuchihashi, which teaches of a grasping member that closes around a peripheral object. See col. 3: 56 – col. 4:12. It would have been obvious to one of ordinary skill in the art at the time of the invention to include such a gripping apparatus in the system of Rosenberg because it would be making use of an effective coupling technology already in use in the art, and using such existing technology for other gripping applications such as Rosenberg would not produce any unexpected results beyond what is already taught and disclosed by Tsuchihashi. Rosenberg teaches wherein the entire capture mechanism (including the coupling mechanism) moves in a direction with (parallel) to the peripheral device. See col. 4: 27-35.

Regarding claim 13, Rosenberg discloses wherein the dimension-adjustment mechanism is configured to automatically adjust dimensions of a coupling mechanism in response to a movement of the peripheral device, the coupling mechanism being configured to couple the peripheral device when engaged by the capture mechanism to the sensor assembly. See col. 6: 25-34.

Regarding claim 14, Rosenberg discloses a dimension-adjusting capture mechanism including an outer tubular member and an inner-tubular member at least partially disposed within the outer-tubular member for adjusting the capture mechanism and the inner tubular-member being coupled to the sensing assembly at a distal end of the inner tubular-member. See fig. 6.

Claims 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rosenberg et al. (US 5,805,140) in view of Tsuchihashi et al (US 4,955,654) and also Bailey (US 6,062,865).

Regarding claims 15-18, Tsuchihashi/Rosenberg et al do not specifically disclose an apparatus comprising a first and second pulley, a belt disposed about the first and the second pulley, a trolley

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configured to move along a guide rail in response to a corresponding movement of the peripheral device when engaged by the capture mechanism (claims 15-18), a rotation-motion sensor to measure rotation of the peripheral device and a translational-motion device to measure translational-motion when engaged by the capture mechanism (claims 16-18), the translational-motion sensor being coupled to the first pulley (claim 17), or an actuator coupled to a second pulley with the actuator being configured to apply force-feedback by controlling a rotation of the second pulley (claim 18). However, Bailey teaches an apparatus comprising a first and second pulley, a belt disposed about the first and the second pulley, a trolley configured to move along a guide rail in response to corresponding movement of the peripheral device when engaged by the capture mechanism (Fig 2), a rotation-motion sensor to measure rotation of the peripheral device and a translational- motion device to measure translational-motion when engaged by the capture mechanism (Fig 2), the translational-motion sensor being coupled to the first pulley (Fig 3), or an actuator coupled to a second pulley with the actuator being configured to apply force-feedback by controlling a rotation of the second pulley (Figs 2 and 3). Therefore, it would have been obvious to one of ordinary skill in the art to provide an apparatus with a capture mechanism configured to engage a peripheral device with a sensing assembly configured to detect movement of the peripheral device when engaged by the capture mechanism as disclosed by Tsushihashi et al/Rosenberg et al with a first and second pulley, a belt disposed about the first and the second pulley, a trolley configured to move along a guide rail in response to a corresponding movement of the peripheral device when engaged by the capture mechanism, a rotation-motion sensor to measure rotation of the peripheral device and a translational-motion device to measure translational-motion when engaged by the capture mechanism, the translational-motion sensor being coupled to the first pulley, or an actuator coupled to a second pulley with the actuator being configured to apply force-feedback by controlling a rotation of the second pulley for the purposes of providing a training simulator with all elements of actual operating conditions without requiring a live patient.

Allowable Subject Matter

Claims 1-24, 26-28, 30-31, and 33 remain allowed as previously indicated.

Response to Arguments

Applicant's arguments dated 1/14/2008 have been fully considered, but are moot in view of the new grounds of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TIMOTHY MUSSELMAN whose telephone number is (571)272-1814. The examiner can normally be reached on Mon-Thu 6:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pezzuto can be reached on (571)272-6996. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/T. M./
Acting Examiner of Art Unit 3714

/Robert E Pezzuto/
Supervisory Patent Examiner, Art Unit
3714

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